

Appl. No. 10/066,099  
Amdt. dated December 21, 2005  
Reply to Office Action of September 21, 2005

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**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A method for identifying, as friend or foe, a combat response unit having a helmet-mounted challenge receiver and retroreflector obturator, the method comprising the unordered steps of:

- (a) projecting an infrared (IR) transmit signal including a transmitted code of the day (TCOD) onto the combat response unit from a combat interrogatory unit;
- (b) receiving the IR transmit signal and TCOD at the challenge receiver;
- (c) selectively reflecting the IR transmit signal by opening and closing the retroreflector obturator according to a response code of the day (RCOD);
- (d) receiving the reflected IR transmit signal and RCOD at the combat ~~the~~ interrogatory unit; and
- (e) combining the received RCOD with the TCOD to identify the combat response unit as friend or foe.

2. (Original) The method of claim 1 further comprising the steps of:

- (f) combining a first code of the day (COD) stored at the combat interrogatory unit with a randomly-generated number (RGN) to produce the TCOD; and
- (g) combining the received TCOD with a second COD stored at the combat response unit to produce the RCOD.

3. (Original) The method of claim 2 further comprising the step of:

- (h) deactivating the combat response unit responsive to a doffing of the soldier's helmet.

4. (Original) The method of claim 3 further comprising the step of:

- (i) accepting biometric data at the combat response unit; and

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(j) activating the combat response unit responsive to the biometric data.

5. (Original) The method of claim 4 wherein the combat interrogatory unit includes a weapon-mounted interrogatory transceiver for projecting and receiving the IR transmit signal.

6. (Original) The method of claim 5 further comprising the step of:

(k) generating an arrival quadrant signal representing the direction of arrival of the IR transmit signal at the combat response unit.

7. (Original) The method of claim 1 further comprising the step of:

(f) deactivating the combat response unit responsive to a doffing of the soldier's helmet.

8. (Original) The method of claim 1 further comprising the step of:

(f) accepting biometric data at the combat response unit; and

(g) activating the combat response unit responsive to the biometric data.

9. (Original) The method of claim 1 wherein the combat interrogatory unit includes a weapon-mounted interrogatory transceiver for projecting and receiving the IR transmit signal.

10. (Original) The method of claim 1 further comprising the step of:

(f) generating an arrival quadrant signal representing the direction of arrival of the IR transmit signal at the combat response unit.

11. (Original) A system for combat identification as friend or foe (IFF) communications comprising:

a combat interrogatory unit comprising

projector means for projecting an infrared (IR) transmit signal including a transmitted code of the day (TCOD),

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receiver means for receiving a reflected IR transmit signal including a response code of the day (RCOD), and  
means for combining the received RCOD with the TCOD to identify the source of the reflected IR transmit signal as friend or foe; and  
a helmet-mounted combat response unit comprising  
sensor means for receiving a projected IR transmit signal including the TCOD,  
retroreflector means for reflecting an incoming IR transmit signal generally back along the incoming path thereof,  
obturator means for obstructing the retroreflector means to prevent reflection thereby, and  
means for opening and closing the obturator means according to the RCOD.

12. (Original) The system of claim 11 further comprising:  
in the combat interrogatory unit,  
means for combining a first stored code of the day (COD) with a randomly-generated number (RGN) to produce the TCOD; and  
in the helmet-mounted combat response unit,  
means for combining the received TCOD with a second stored COD to produce the RCOD.

13. (Original) The system of claim 12 further comprising:  
in the helmet-mounted combat response unit,  
means for deactivating the combat response unit responsive to a doffing of the helmet.

14. (Original) The system of claim 13 further comprising:  
in the helmet-mounted combat response unit,  
means for accepting biometric data at the combat response unit; and

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means for activating the combat response unit responsive to the biometric data.

15. (Original) The system of claim 14 further comprising:  
in the helmet-mounted combat response unit,  
means for generating an arrival quadrant signal representing the direction of  
arrival of the IR transmit signal.

16. (Original) The system of claim 15 further comprising:  
in the combat interrogatory unit,  
means for fixing the projector means and the receiver means to a weapon.

17. (Original) The system of claim 11 further comprising:  
in the helmet-mounted combat response unit,  
means for deactivating the combat response unit responsive to a doffing of the  
helmet.

18. (Original) The system of claim 17 further comprising:  
in the helmet-mounted combat response unit,  
means for accepting biometric data at the combat response unit; and  
means for activating the combat response unit responsive to the biometric data.

19. (Original) The system of claim 18 further comprising:  
in the combat interrogatory unit,  
means for fixing the transmitter means and the receiver means to a weapon.

20. (Original) The system of claim 11 further comprising:  
in the helmet-mounted combat response unit,  
means for accepting biometric data at the combat response unit; and  
means for activating the combat response unit responsive to the biometric data.

21. (Original) The system of claim 11 further comprising:  
in the helmet-mounted combat response unit,

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means for generating an arrival quadrant signal representing the direction of arrival of the IR transmit signal.

22. (Original) The system of claim 11 further comprising:  
in the combat interrogatory unit,  
means for fixing the transmitter means and the receiver means to a weapon.

23. (Currently Amended) A combat response unit adapted for mounting in a helmet for use in a combat identification as friend or foe (IFF) communications system, the combat response unit comprising:

means for receiving a projected infrared (IR) transmit signal including a transmitted code of the day (TCOD), the TCOD including a periodically updated code of the day (COD) portion and a randomly generated portion;

retroreflector means for reflecting an incoming IR transmit signal generally back along the incoming path thereof;

obturator means for obstructing the retroreflector means to prevent reflection thereby; and

means for opening and closing the obturator means according to a response code of the day (RCOD).

24. (Original) The unit of claim 23 further comprising:  
means for combining the received TCOD with a second stored COD to produce the RCOD.

25. (Original) The unit of claim 24 further comprising:  
means for deactivating the combat response unit responsive to a doffing of the helmet.

26. (Original) The unit of claim 25 further comprising:  
means for accepting biometric data at the combat response unit; and  
means for activating the combat response unit responsive to the biometric data.

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27. (Original) The unit of claim 23 further comprising:  
means for deactivating the combat response unit responsive to a doffing of the  
helmet.
28. (Original) The unit of claim 27 further comprising:  
means for accepting biometric data at the combat response unit; and  
means for activating the combat response unit responsive to the biometric data.
29. (Original) The unit of claim 23 further comprising:  
means for accepting biometric data at the combat response unit; and  
means for activating the combat response unit responsive to the biometric data.
30. (Original) The system of claim 23 further comprising:  
in the helmet-mounted combat response unit,  
means for generating an arrival quadrant signal representing the direction of  
arrival of the IR transmit signal.
31. (Original) A combat interrogatory unit for use in a combat identification  
as friend or foe (IFF) communications system, the combat interrogatory unit comprising:  
projector means for projecting an infrared (IR) transmit signal including a  
transmitted code of the day (TCOD);  
receiver means for receiving a reflected IR transmit signal including a response  
code of the day (RCOD); and  
means for combining the received RCOD with the TCOD to identify the source of  
the reflected IR transmit signal as friend or foe.
32. (Original) The unit of claim 31 further comprising:  
means for combining a first stored code of the day (COD) with a randomly-  
generated number (RGN) to produce the TCOD.
33. (Original) The unit of claim 32 further comprising:

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means for fixing the projector means and the receiver means to a weapon.

34. (Original) The unit of claim 31 further comprising:

means for fixing the projector means and the receiver means to a weapon.